

Microbiological Fingerprints

Prof Ockerman 2X2 slides originally
constructed in the 60's

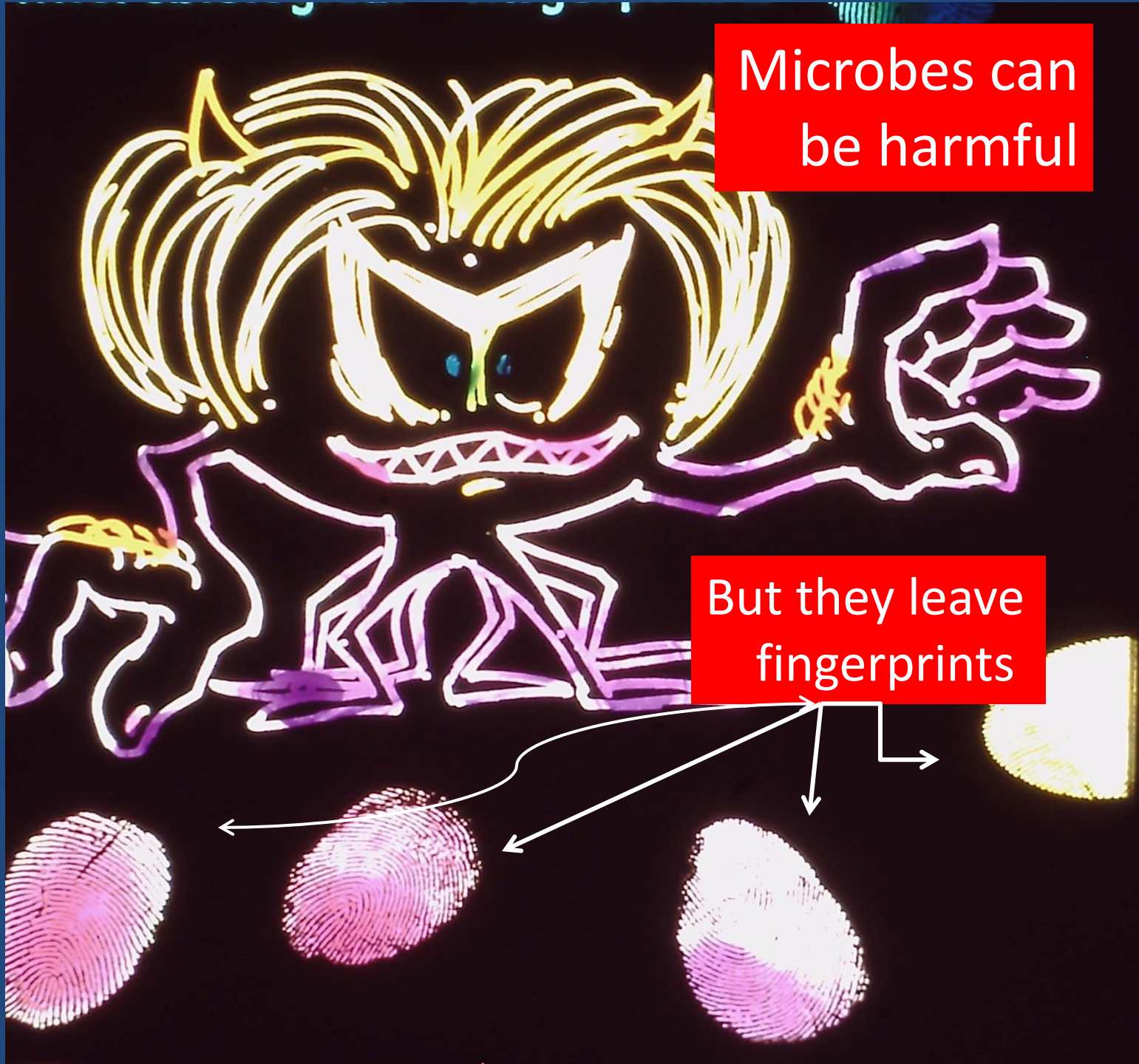
Some of script was added in 2015

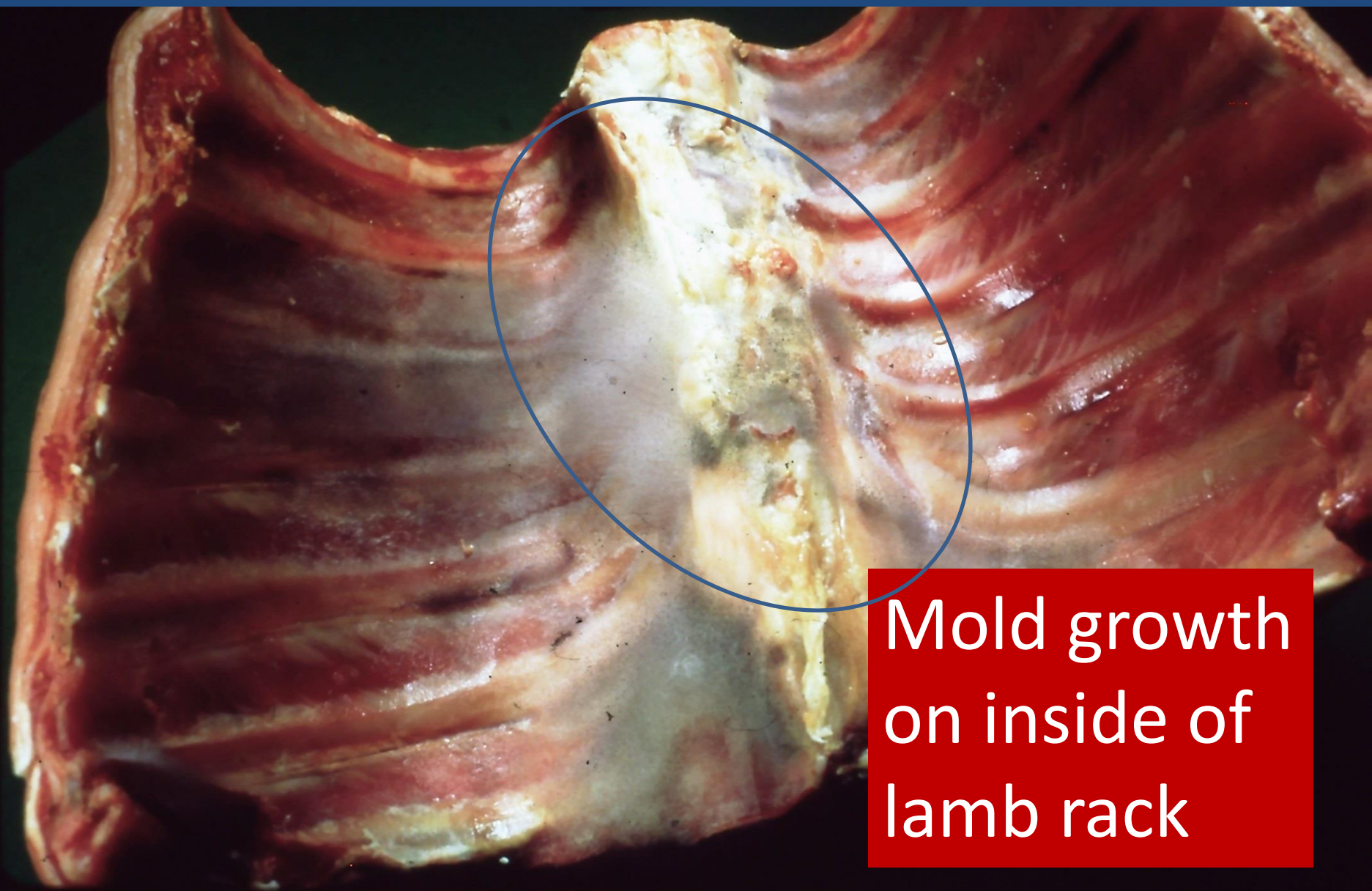
The Ohio State University

- To evaluate sanitation and to review the progress towards reducing contamination
- Viewing growth of microorganisms becomes necessary to accomplish the above

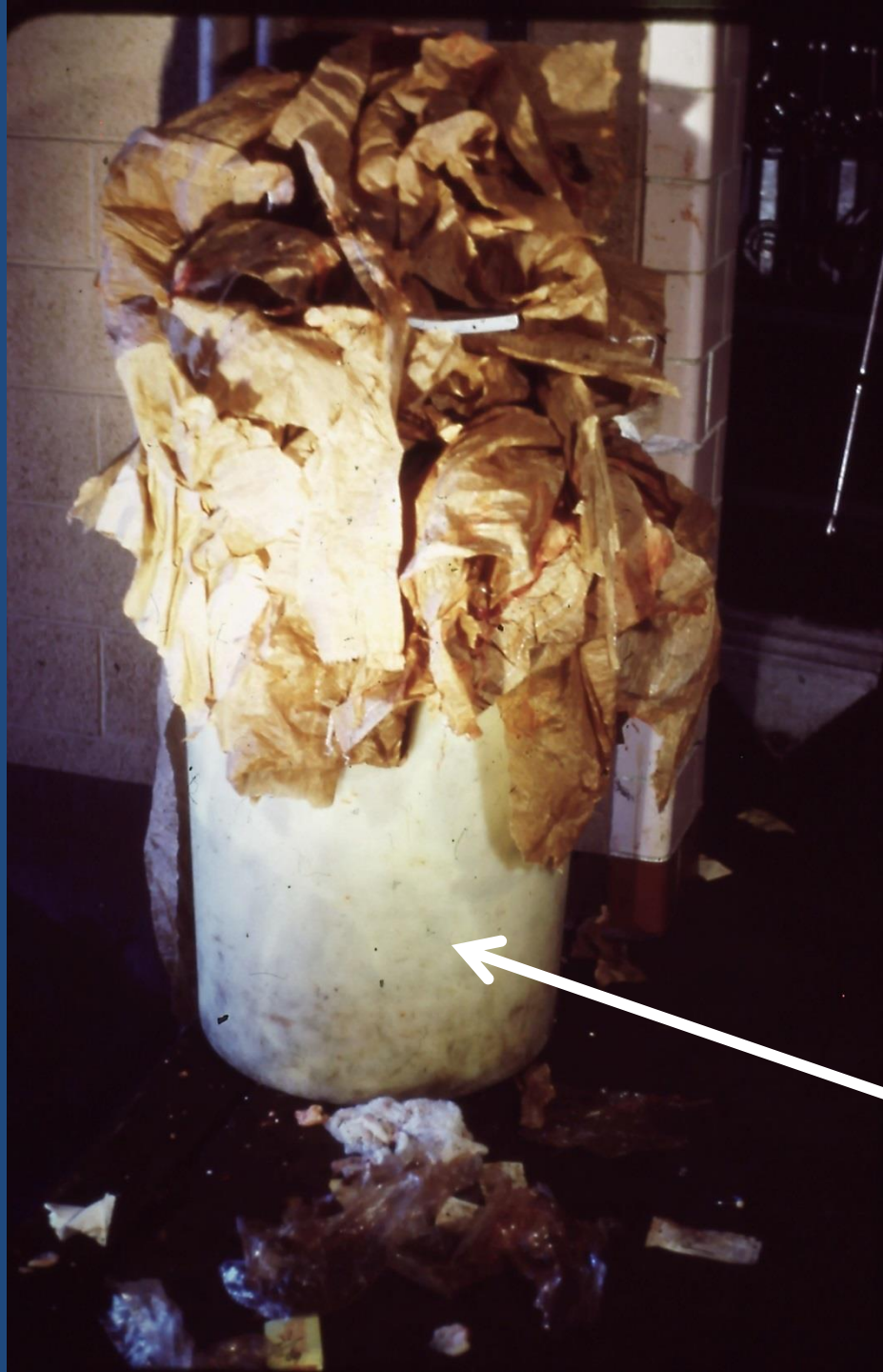
Microbes can
be harmful

But they leave
fingerprints





Mold growth
on inside of
lamb rack



Over-flowing
Trash Container
= microbe-rich
environment

Clutter =
unclean
microbe-rich
environment



A petri dish containing a bacterial print is placed on a dark, diamond-plate metal surface. The bacterial print is a circular, yellowish-brown colony with a distinct, repeating pattern of small, rounded, and slightly elongated shapes, resembling a fingerprint. The petri dish is centered in the frame, and the diamond plate pattern is clearly visible in the background.

Bacterial Print
Of Truck Floor

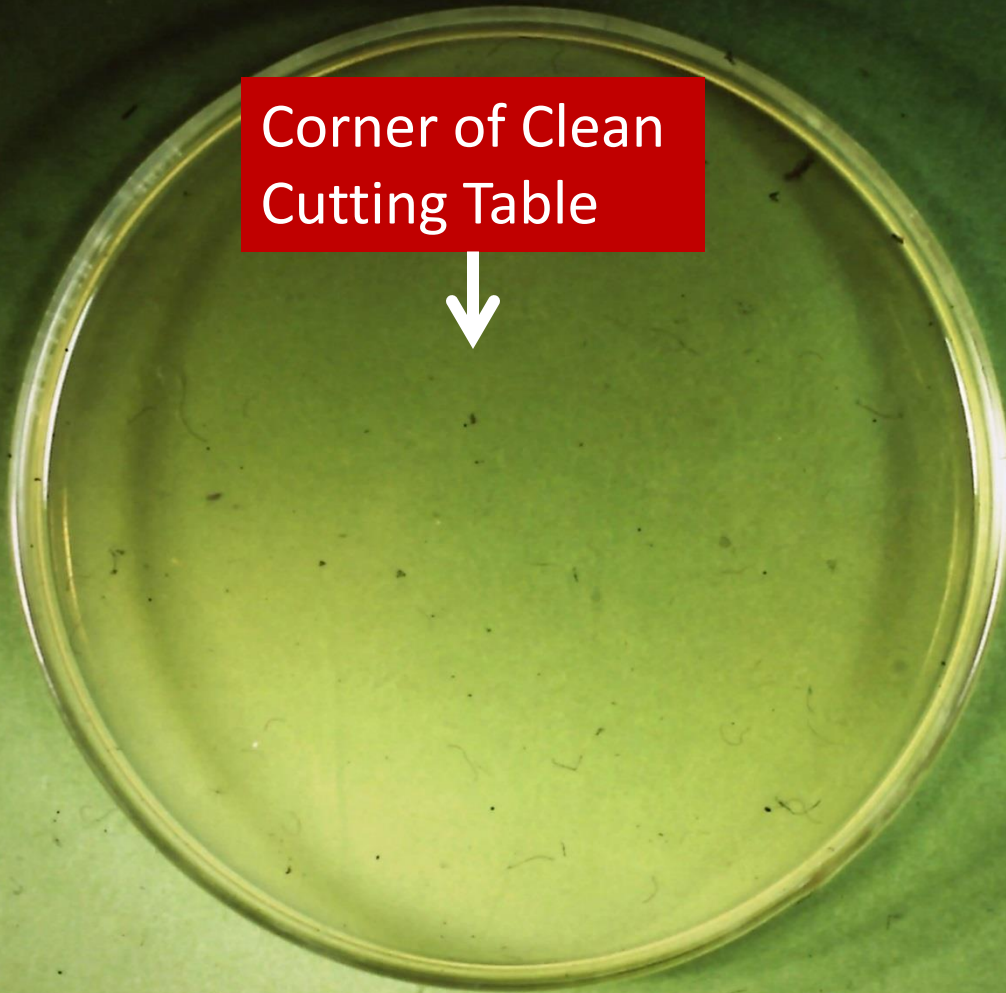
Truck
Floor

Corner of Unclean
Cutting Table



Sterile

Corner of Clean
Cutting Table

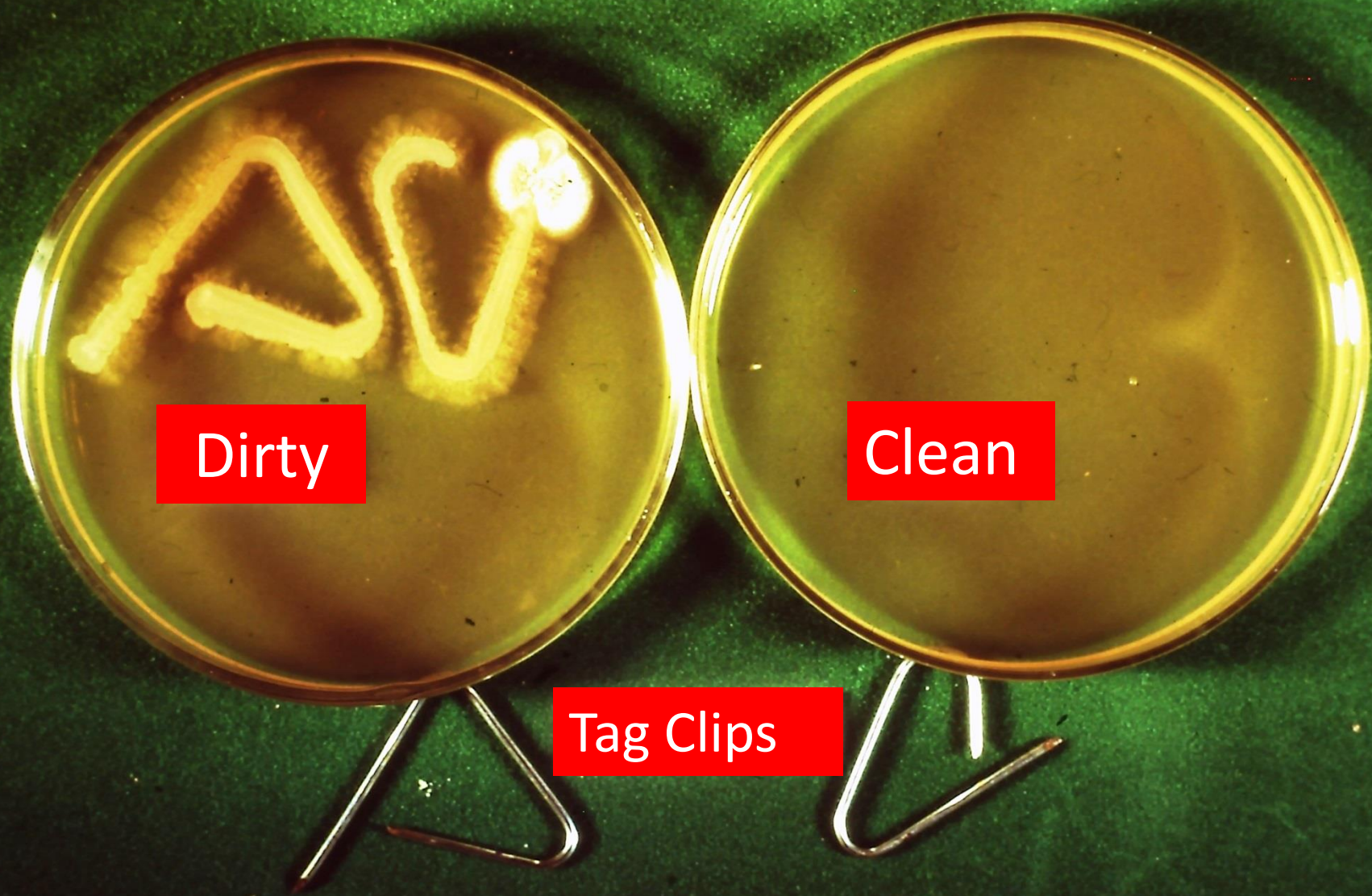




Meat Hook Top-> Dirty
Bottom hook-> Clean



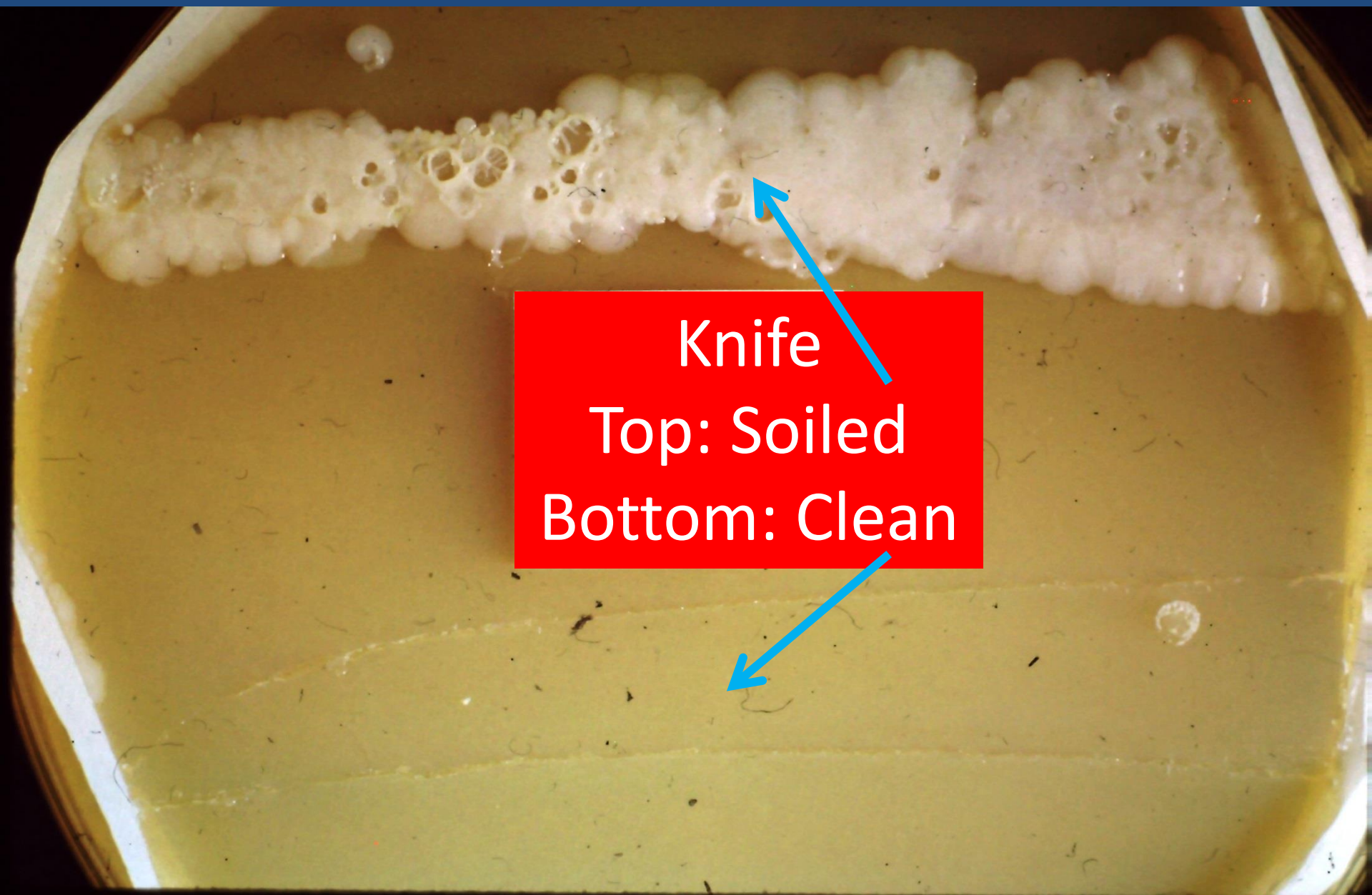
Shroud Pin Top-> Dirty
Bottom-> Clean



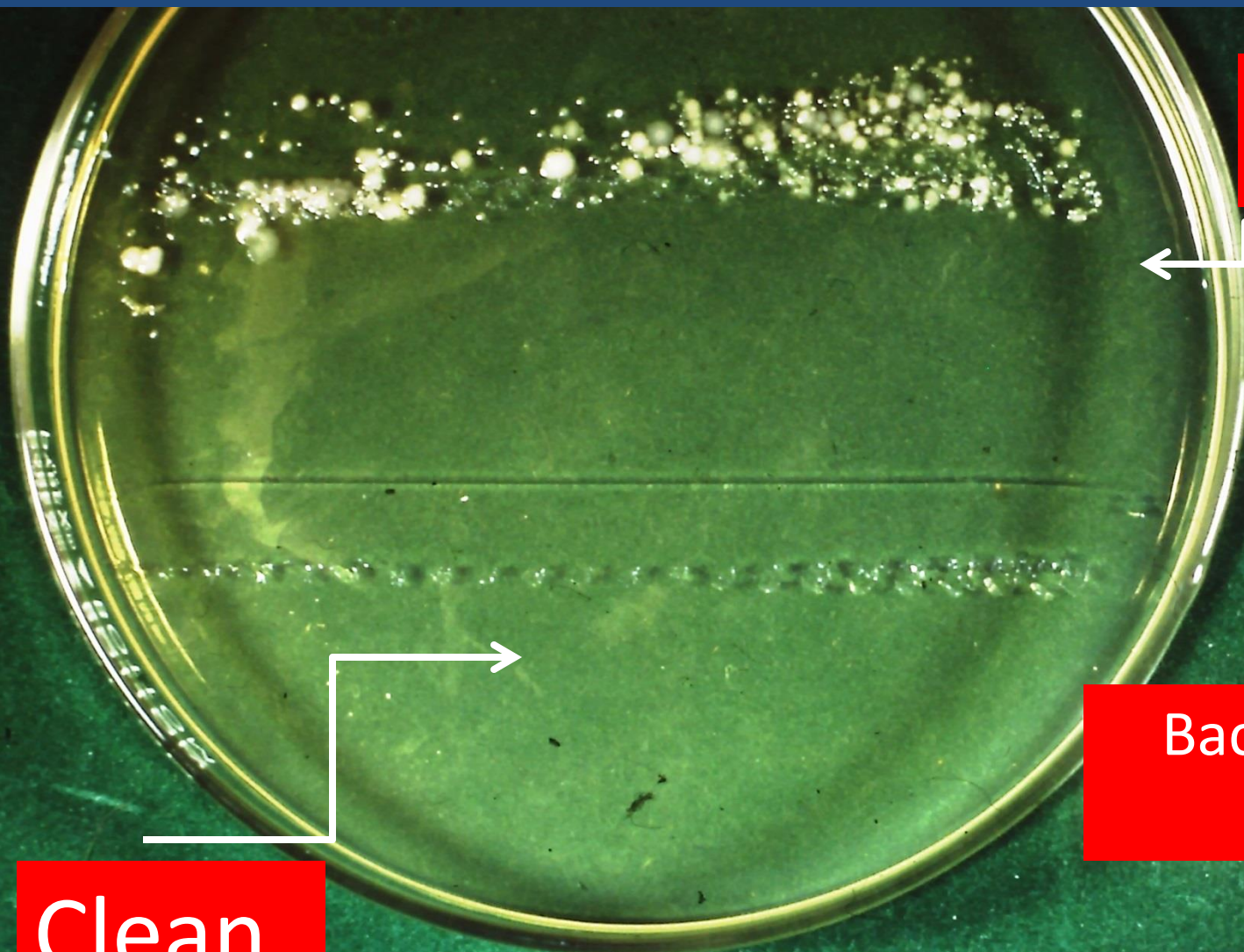
Dirty

Clean

Tag Clips



Knife
Top: Soiled
Bottom: Clean



Dirty

Bacteria on saw
blade

Clean

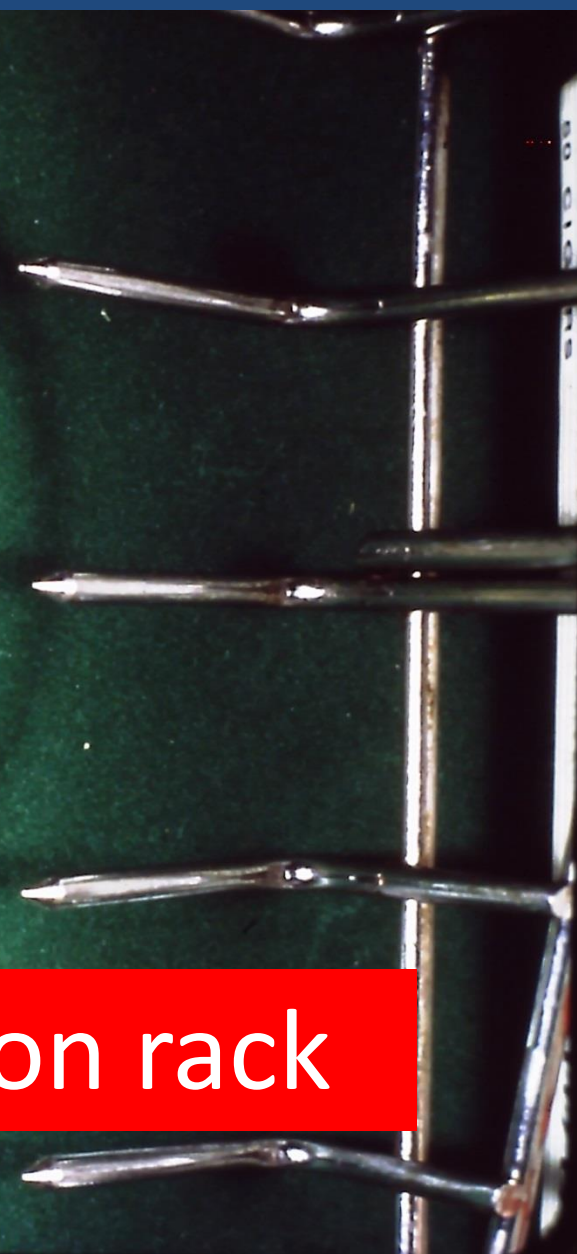




Dirty

Clean

Bacon rack





Cloth
Top: Dirty
Bottom: Clean



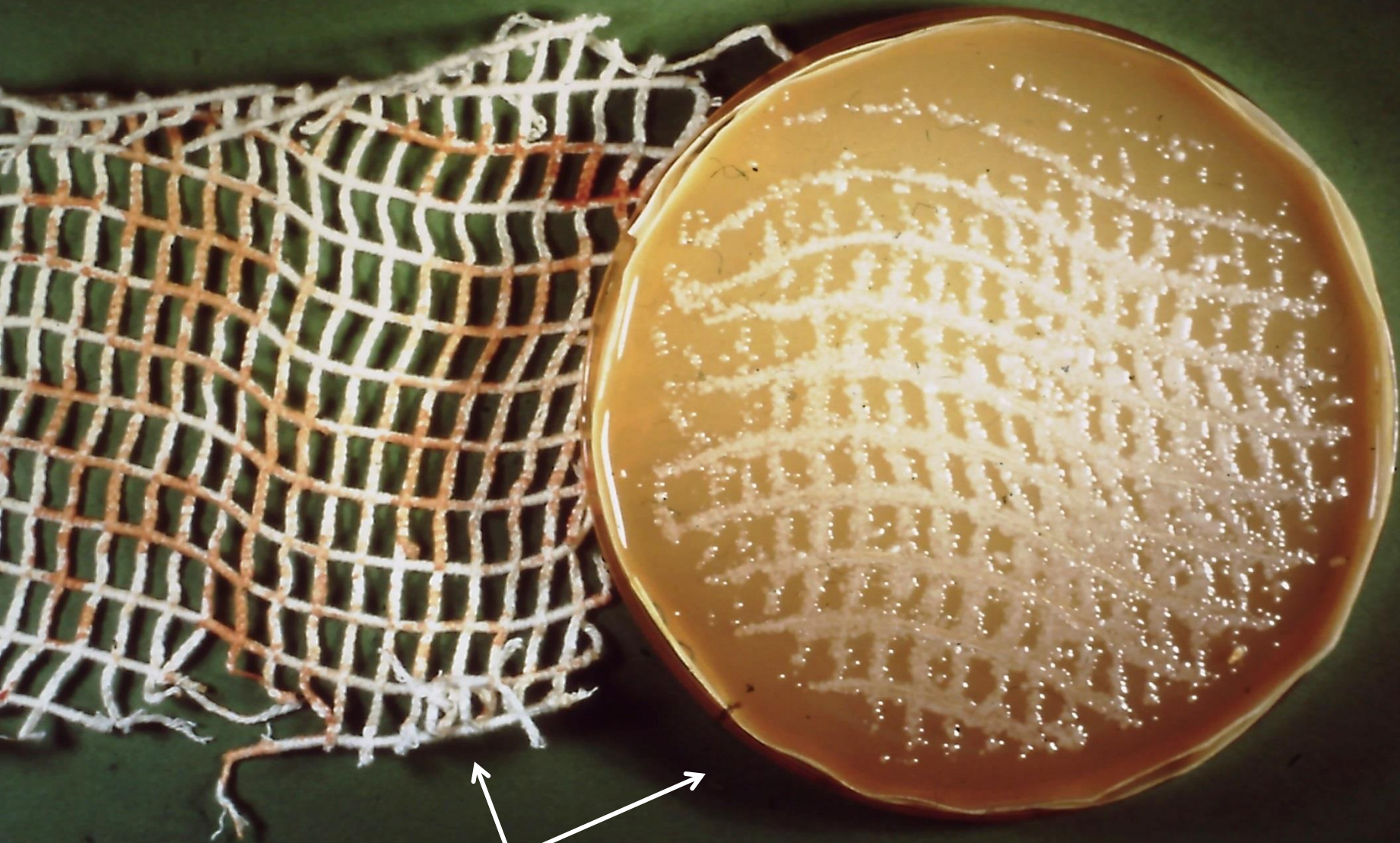
Top: dirty
Bottom: Clean

Grinder Plate and Grinder Knife

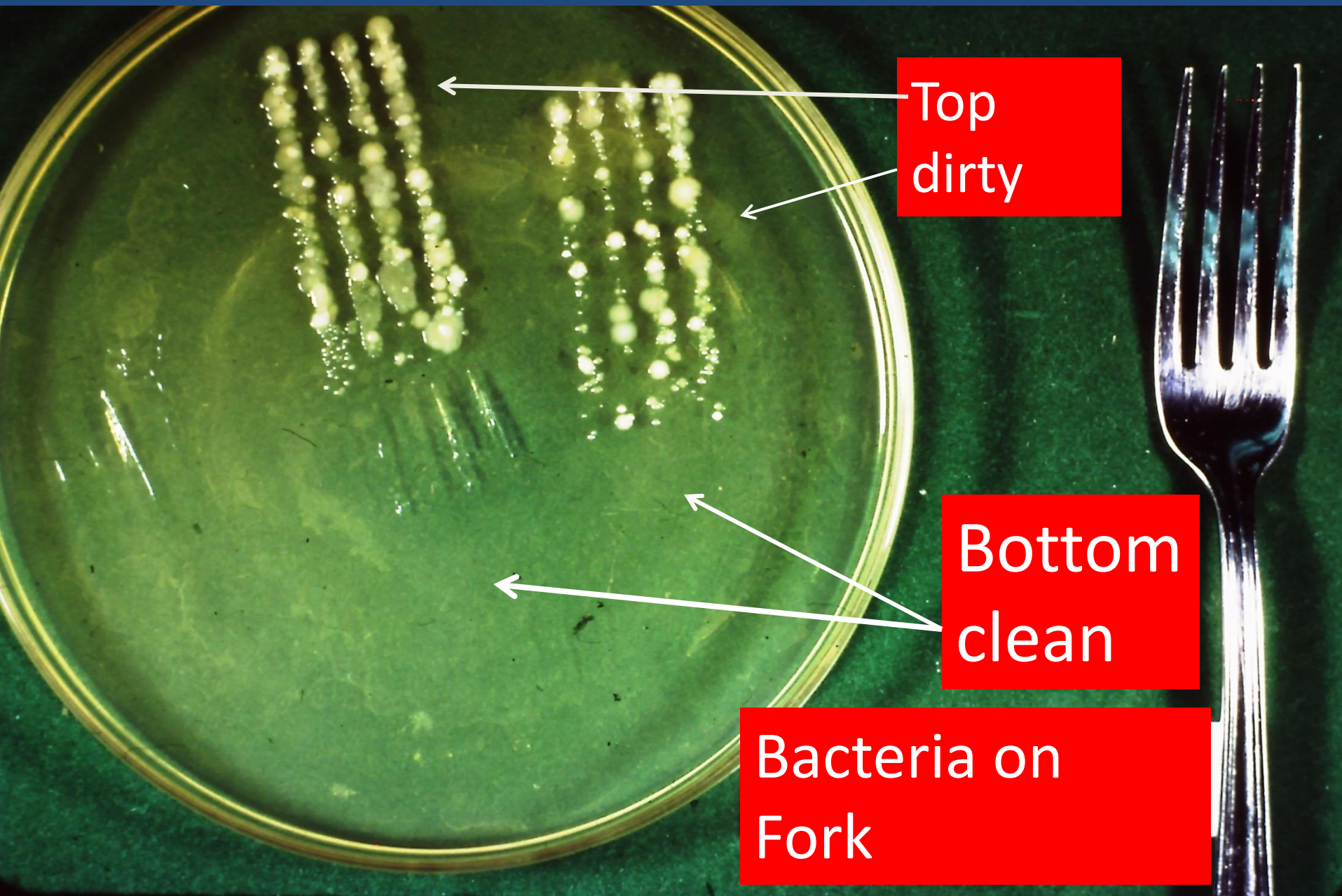


Stuffing Horn

Top: dirty Bottom: clean



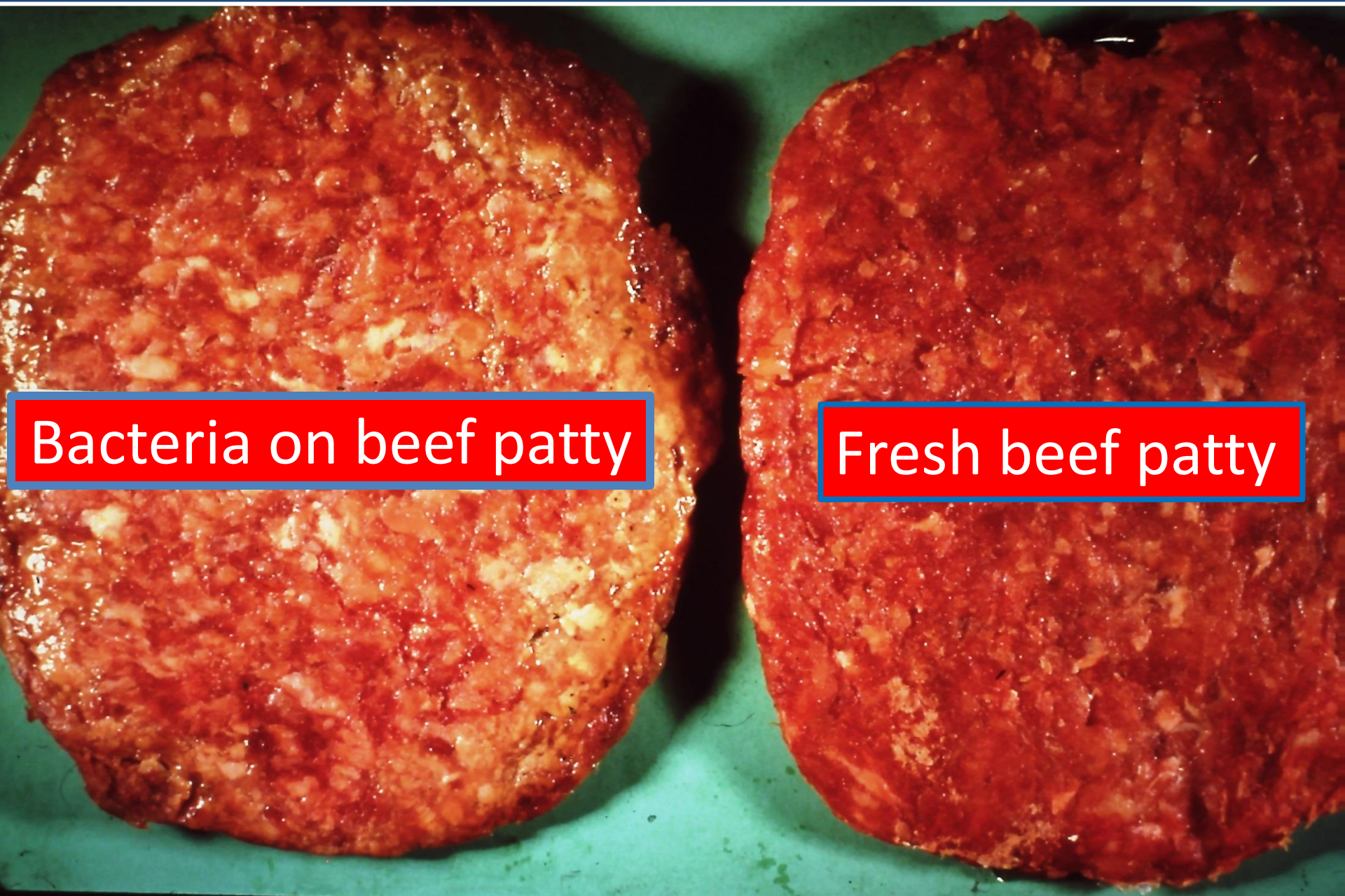
Dirty netting



Top
dirty

Bottom
clean

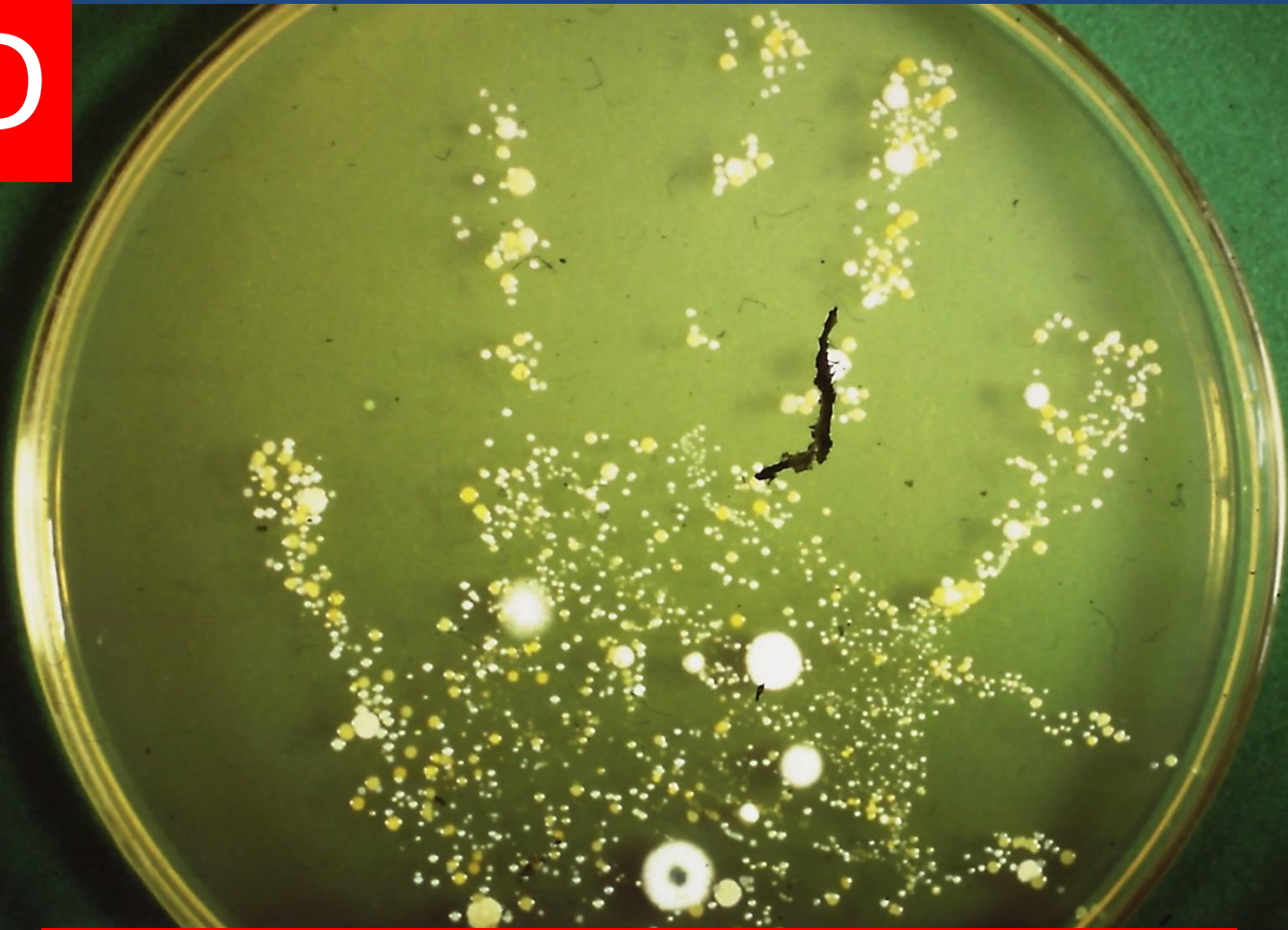
Bacteria on
Fork



Bacteria on beef patty

Fresh beef patty

BAD



HANDS DIRTY

NO
BETTER



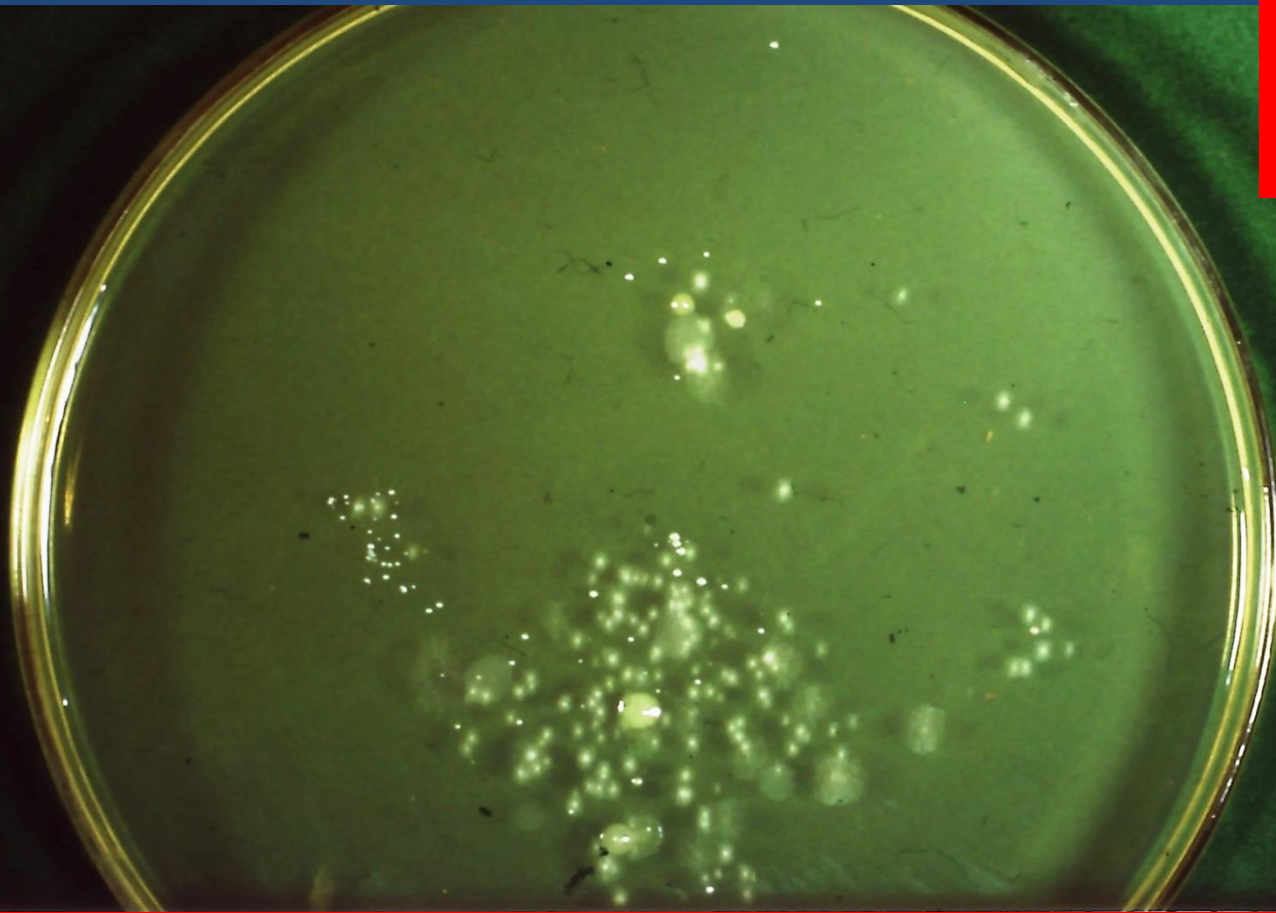
HANDS RINSED

A petri dish containing a green agar medium with numerous white, circular bacterial colonies of varying sizes. Some colonies are isolated, while others are in small groups. The colonies have a slightly raised, textured appearance.

ONLY
SLIGHTLY
BETTER

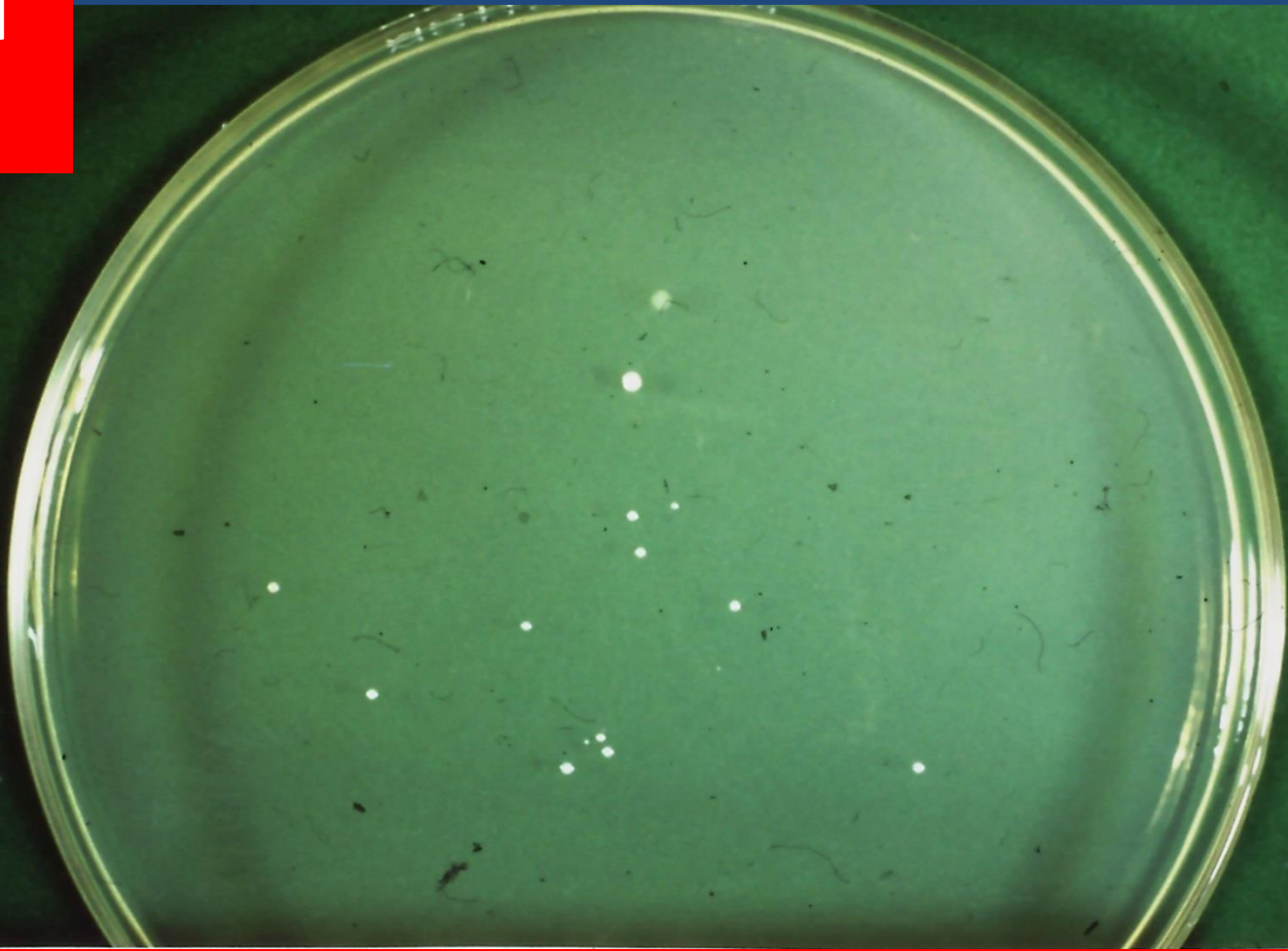
HANDS FIRST WASH

Much
BETTER



HANDS SAACOND WASH

ALMOST
STERILE

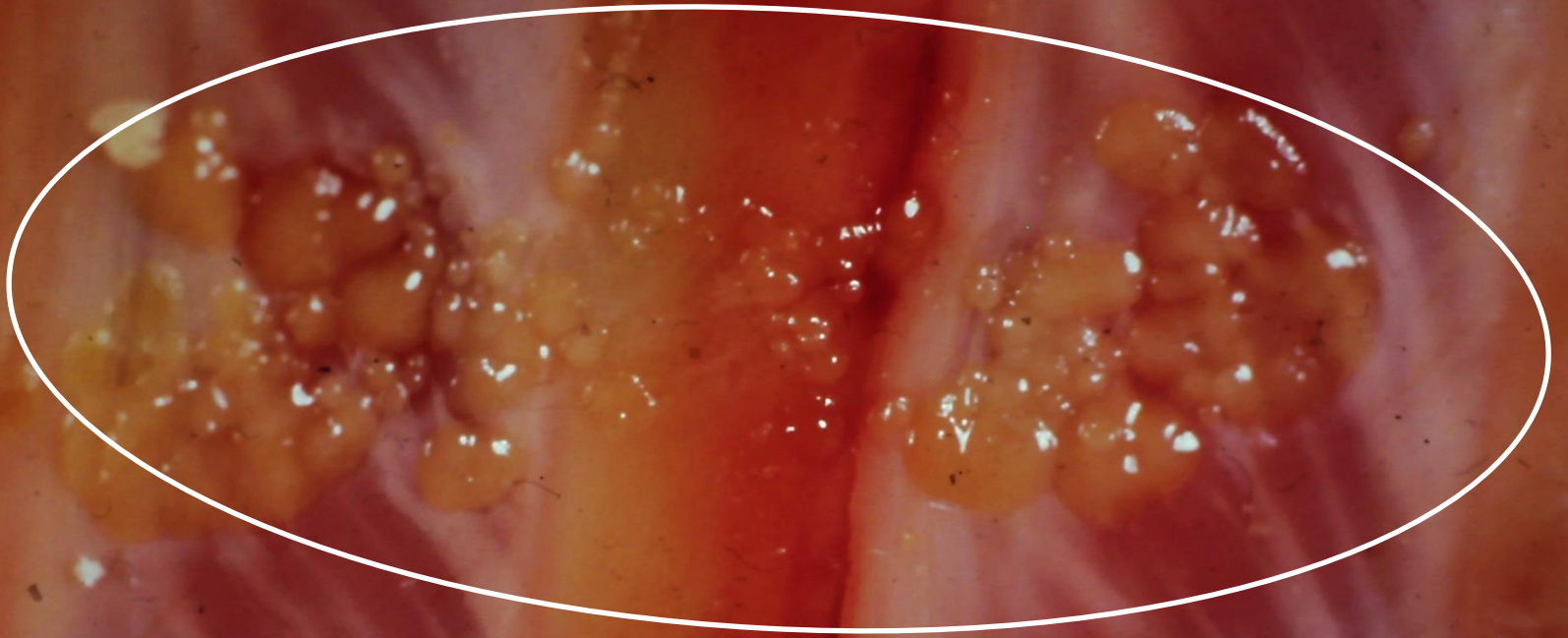


HANDS SANITIZED

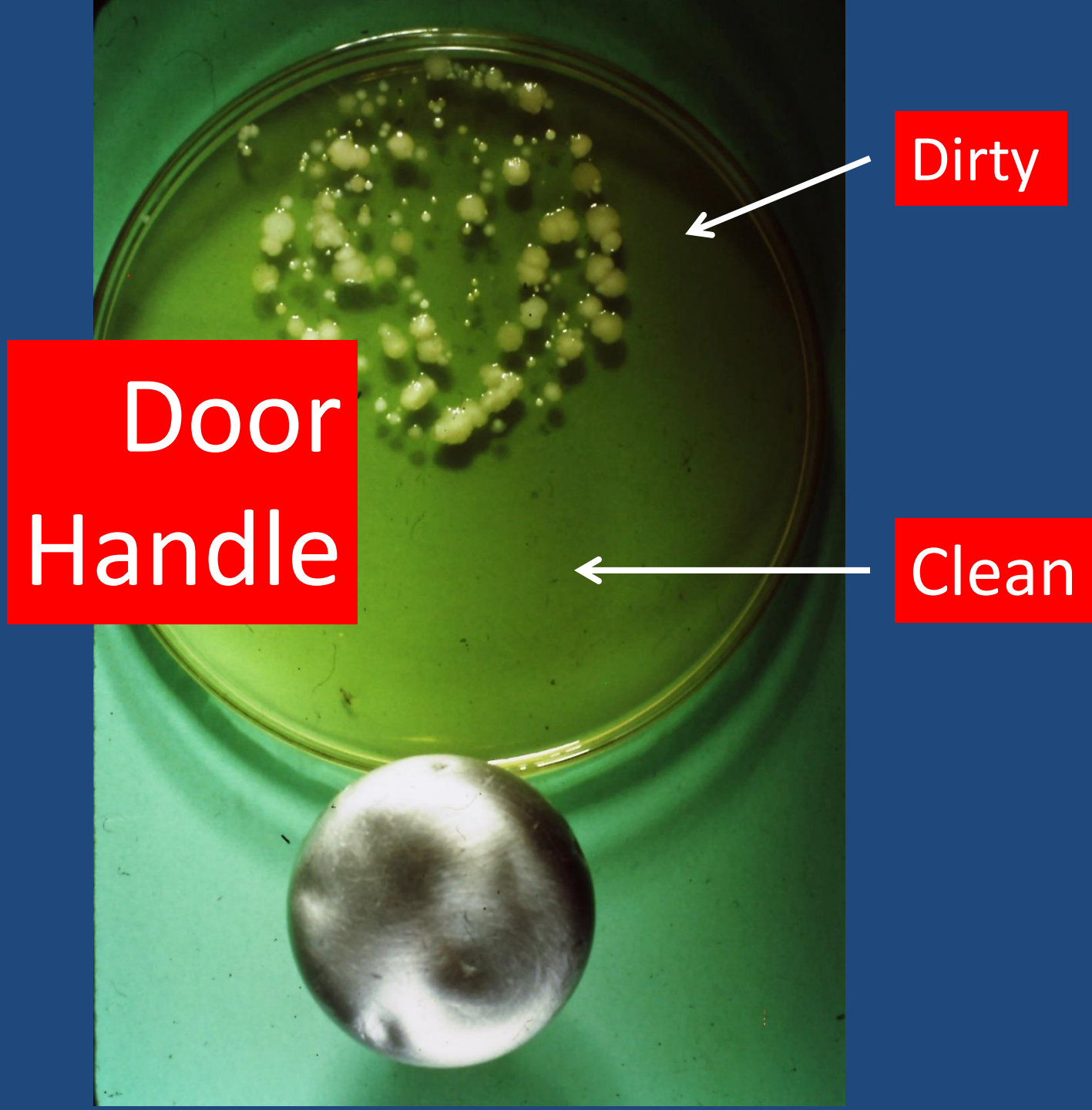
A photograph of a petri dish containing a yellowish agar medium. A single, long, thin, light-colored hair is placed horizontally across the upper portion of the dish. A blue arrow with a white outline points upwards towards the hair. A red rectangular box is superimposed over the lower part of the dish, containing white text. The petri dish is set against a dark green background.

Bacteria on human
washed hair

Reason
for hair
nets



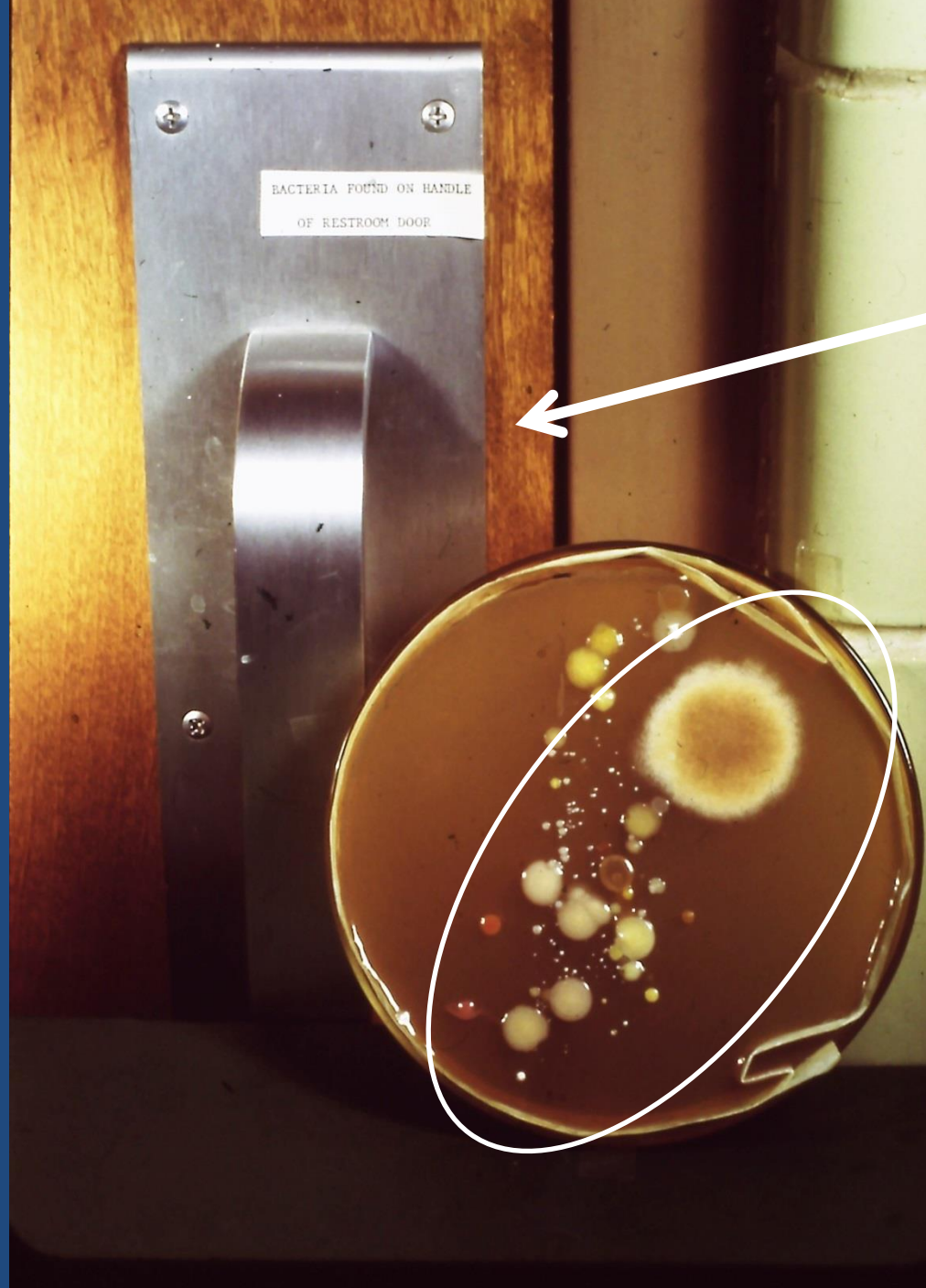
BACTERIA ON MEAT



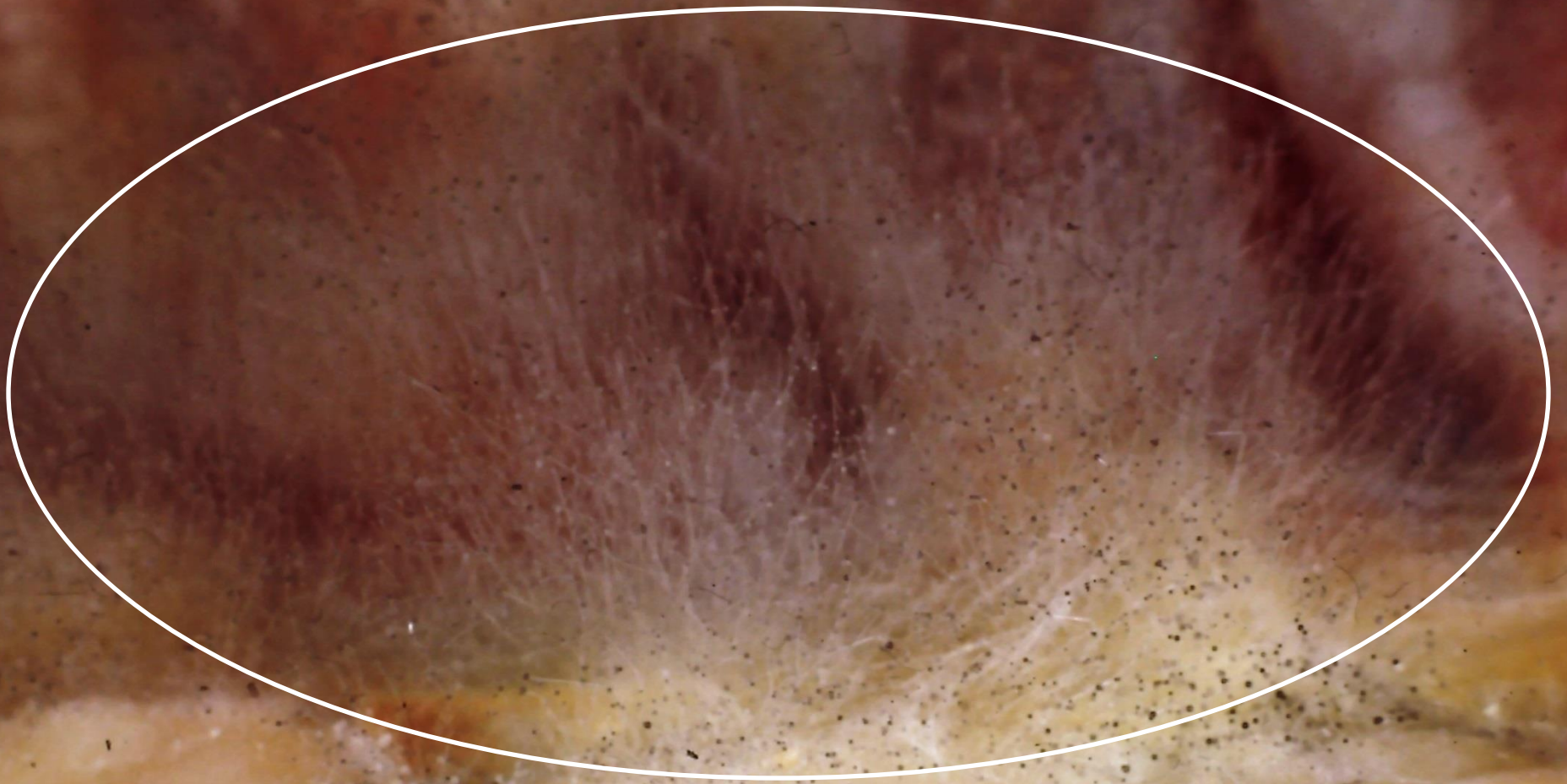
Dirty

Door
Handle

Clean



Rest
Room
Door
Handle



**Mold on
Meat**

A top-down view of a petri dish containing a green agar medium. A horizontal line of bacterial growth, identified as fly tracks, is circled in white. The growth consists of several distinct colonies, including two larger, pale, circular ones and several smaller, yellowish ones. The petri dish has a gold-colored rim and is set against a dark blue background.

FLY TRACKS



COCKROACH TRACKS

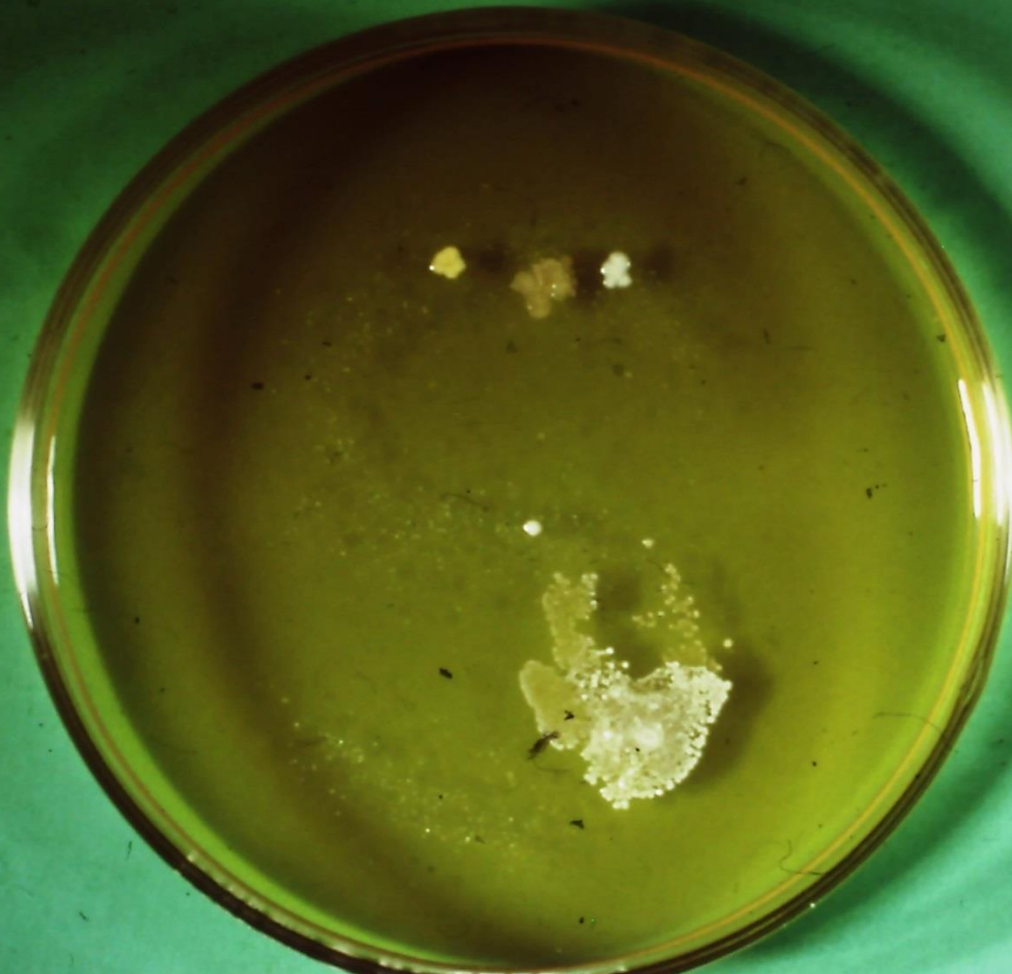


**WHITE
MOUSE**

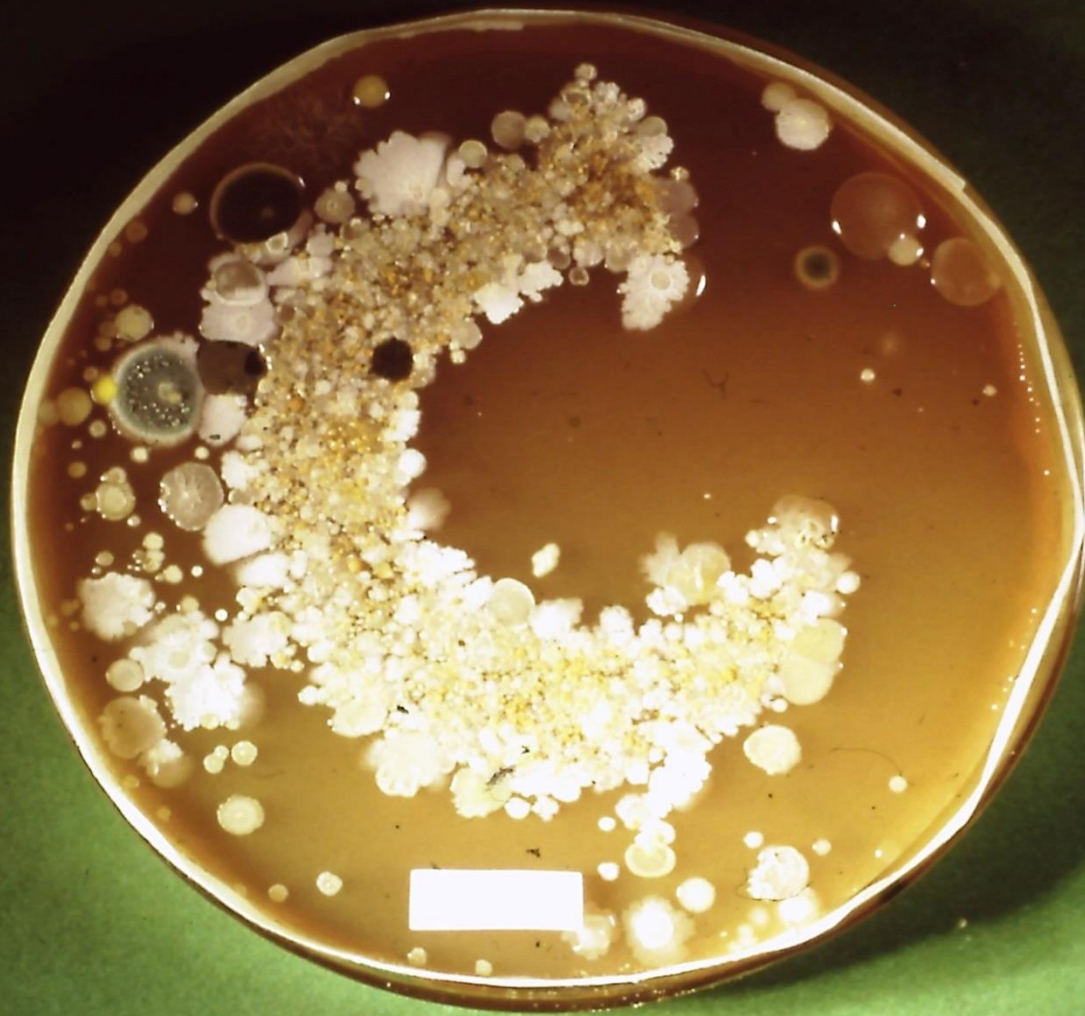
TRACKS OF WHITE
MOUSE
FOUR IMPRESSIONS



A few bacteria can grow even on salt



Bacteria found in Salt



Cloves ADDED IN SHAPE OF A “c”. As with other spices can be a contaminated source



Pepper in shape of
'P' can be a
contaminated
source

EFFECT OF NITRITE

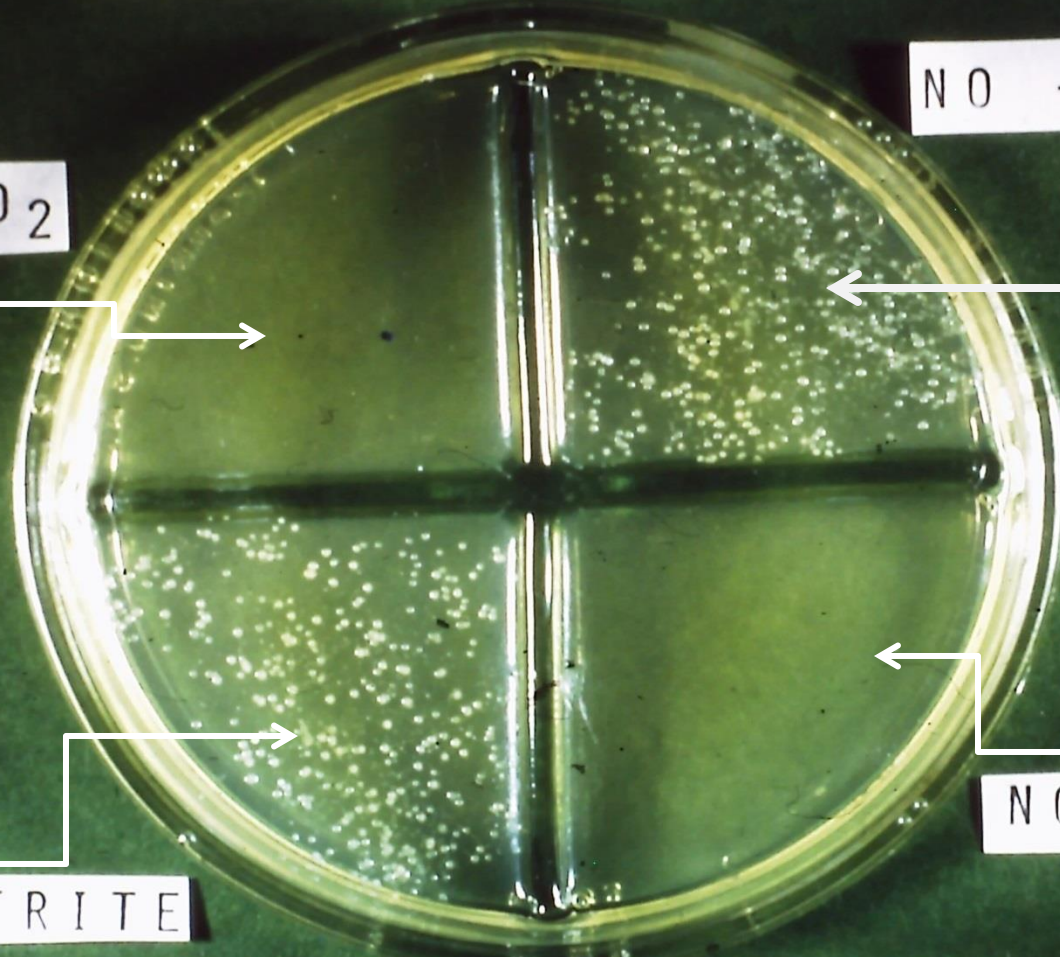
NO₂

NO - NITRITE

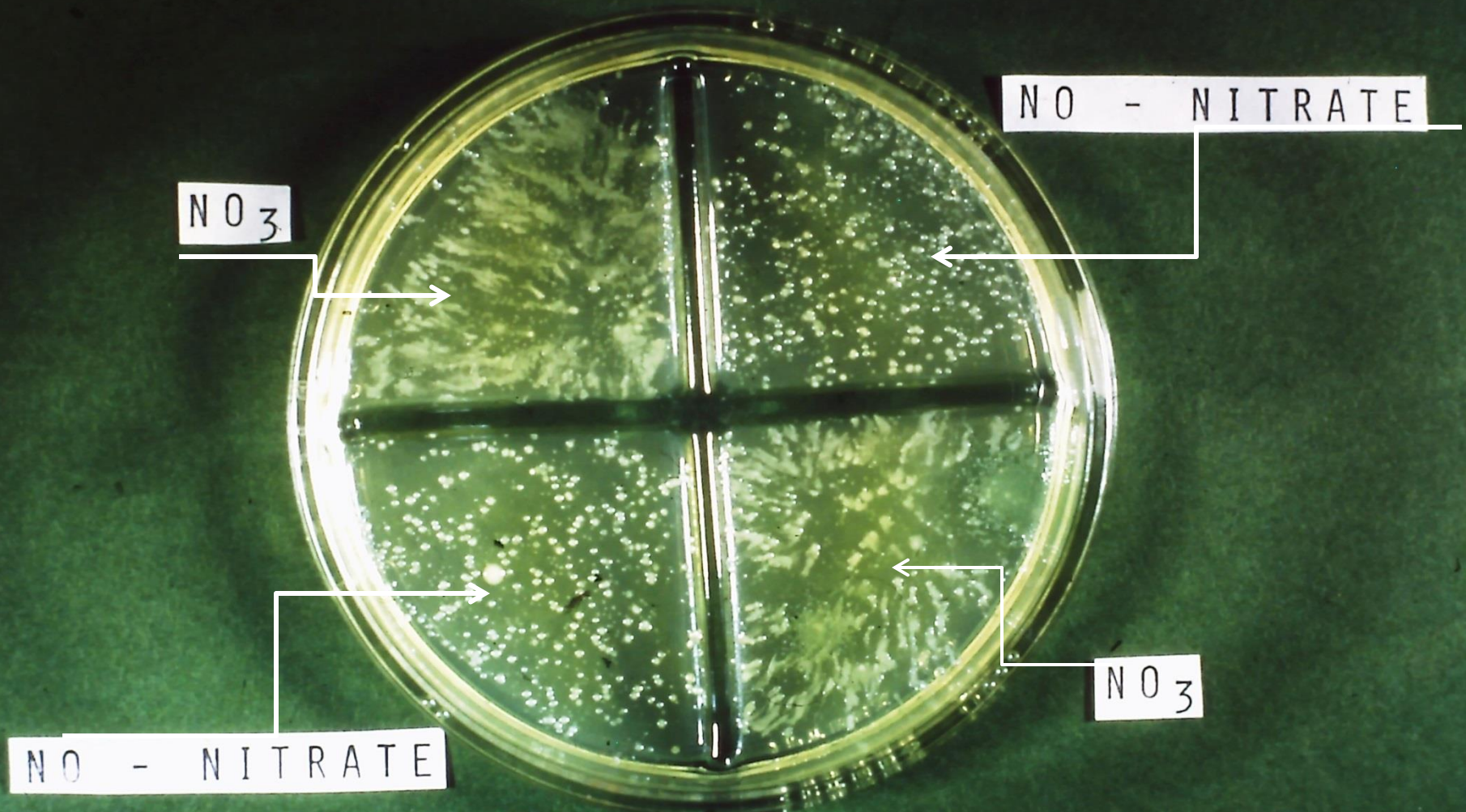
NO₂

NO - NITRITE

**NITRITE IS A VERY GOOD ANTIBACTERIAL
ADDITIVE**



EFFECT OF NITRATE



**NITRATE IS NOT A VERY GOOD ANTIMICROBIAL ADDITIVE
BUT DOES CHANGE THE TYPE OF BACTERIA THAT GROW**

EFFECT OF NITRITE

EFFECT OF NITRATE

NO - NITRITE

NO - NITRATE

NO_2

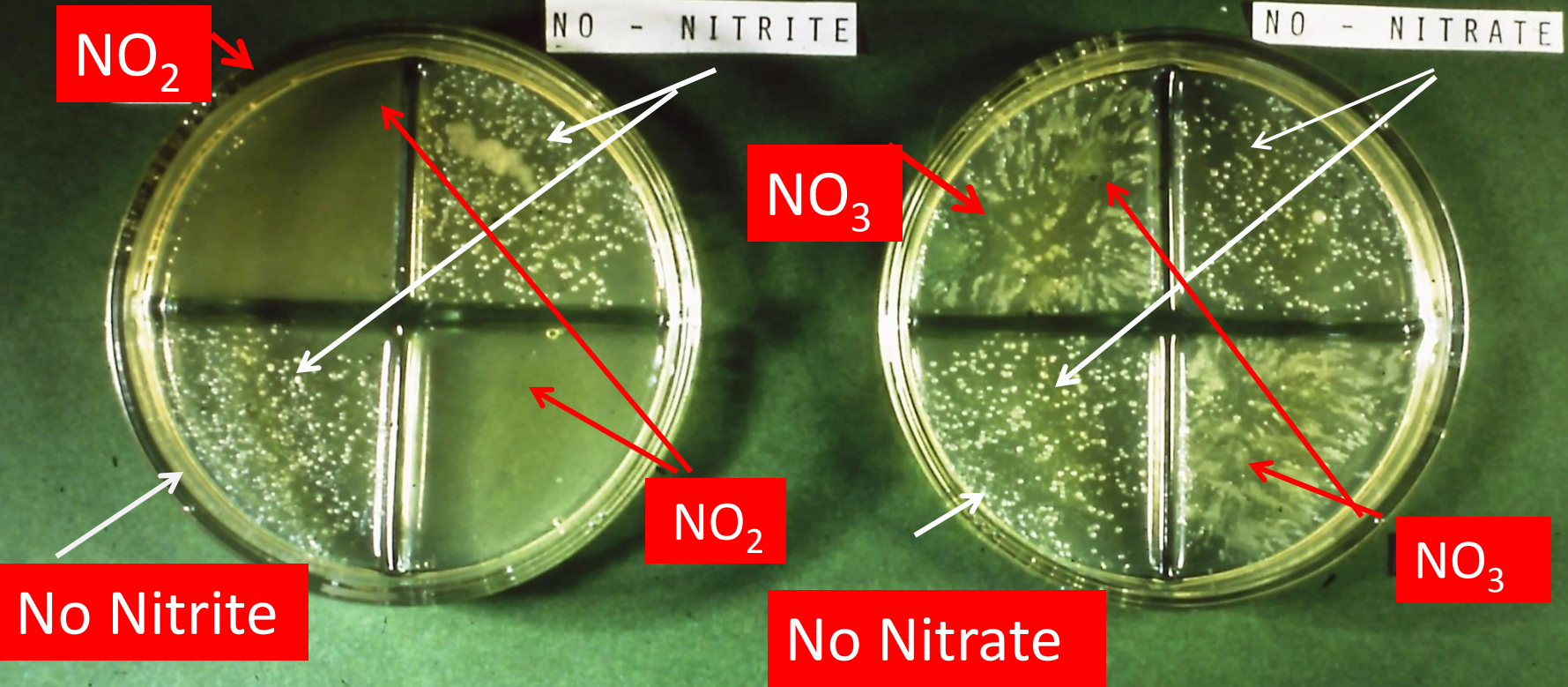
NO_3

NO_2

NO_3

No Nitrite

No Nitrate



BACTERIA ON
COMMINUTED PRODUCT



FRESH COMMINUTED PRODUCT



A photograph showing a broken cooler door. The door is made of wood and has a metal latch mechanism. A red rectangular box is overlaid on the image, containing the text "Broken Cooler Door". The door is open, revealing a dark interior. The latch mechanism is visible on the left side of the door. The door is made of wood and has a metal latch mechanism. A red rectangular box is overlaid on the image, containing the text "Broken Cooler Door".

Broken Cooler Door

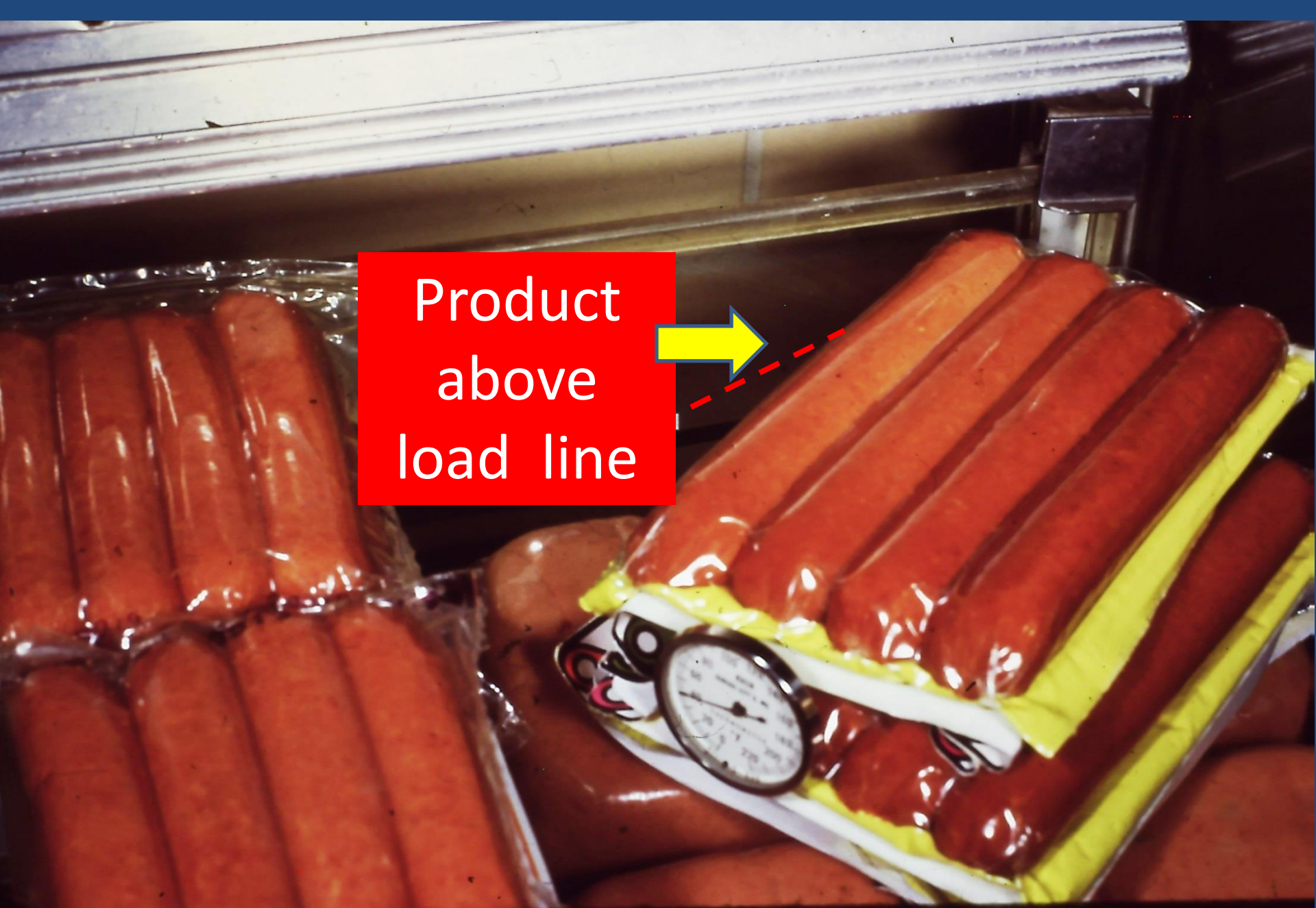
A close-up photograph of a door frame. The frame is made of wood, showing significant wear and discoloration. A metal latch or handle is visible on the right side of the frame. The insulation material, which appears to be a light-colored, fibrous substance, is broken and exposed, indicating a failure in the door's sealing or insulation. The background is dark and out of focus.

Broken door insulation



Frosted Coils

Product
above
load line





Temperature Control
Not frozen: Box wet



FRESH BEEF

BACTERIA ON BEEF

TO SUMMARIZE. . .

- a) HOUSE CLEANING - WASHING - SANITIZING
- b) CLEAN EQUIPMENT - FREQUENT CLEAN-UP
- c) PERSONAL HYGIENE - A MUST !
- d) PEST CONTROL - ESSENTIAL!
- e) ADDITIVES - RELATIONSHIP TO MICROBIOLOGY
- f) TEMPERATURE CONTROL - ESSENTIAL!

Placing
contaminated
liquid on
media





Bacteria
sending us
a message

Follow
the rules
or we will
be back